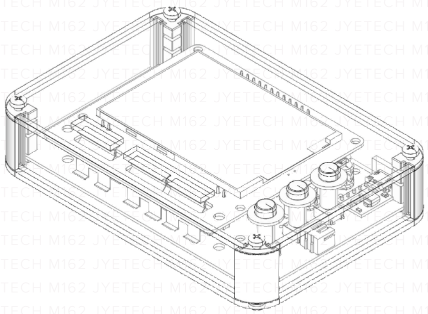
ASSEMBLY GUIDE (REV. 01)

M162 LCR METER DIY KIT



MODEL	M162
PCB VERSION	MAIN: 109-16202-00B ANALOG: 109-16201-00F
FIRMWARE	113-16202-060

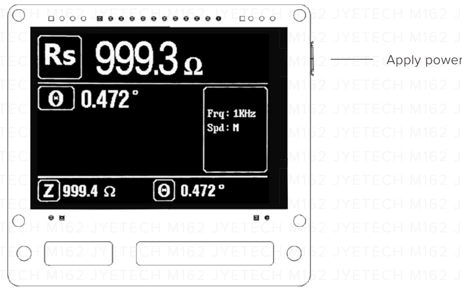
REQUIRED TOOLS

1. 25W Soldering Iron
2. Soldering Wire (Rosin-core Recommended)
3. Digital Multimeter
4. Screwdriver - Philips #1
5. Flush (wire) cutter
6. Tweezers
7. Micro-USB power cable

1 Getting Started

TEST THE MAIN BOARD

1. Connect the USB Cable to the Micro-USB port on the Main Board and a USB power source.
2. Ensure your M162 main board boots up correctly. When powered on, the LED (D1) will blink twice. The display will then go through two splash screens and enter into a state similar to the below illustration.
3. The values of the numbers are random. Please ignore them and just ensure the display is normal.

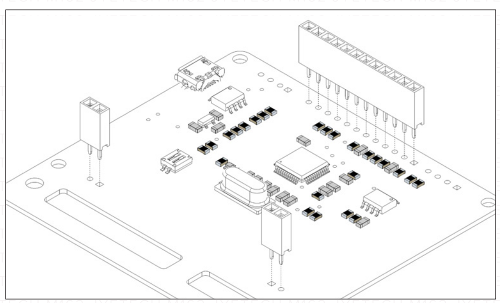


(PCB 109-16202-00B shown)

If your M162 main board does not power up, or powers up with a blank screen, please contact us at support@jyetech.com. Do not solder any parts onto the board if you encounter any issues as this will void the warranty.

2 Main Board Assembly

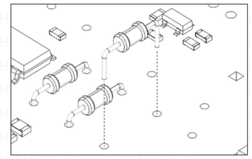
STRIP SOCKETS



- [ ] J4 12x1 strip socket
- [ ] J8, J9 2x1 strip socket

3 Analog Board Assembly

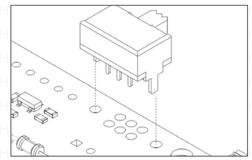
RESISTORS



Use a multimeter or a resistor color code to identify the resistor values.

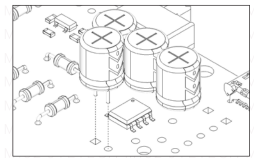
☐ R1, R2, R4, R5, R8, R11, R15, R16, R19, R20	1KΩ
☐ R3, R12	100Ω
☐ R6	560Ω
☐ R10	100KΩ
☐ R14	5.1KΩ
☐ R17, R21, R23, R24	6.2KΩ
☐ R18	47Ω
☐ R27, R28	10Ω

SLIDE SWITCH



- [ ] SW4 SK-22D03T

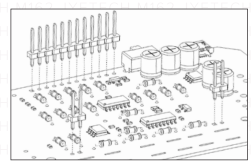
CAPACITORS



- [ ] C9, C10, C11, C12, C13 100µF, 16V

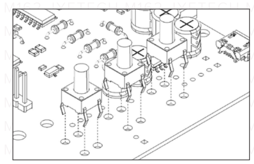
Ensure the polarity of the capacitors are installed correctly. The positive pole goes into the holes of the square pads.

PIN HEADERS



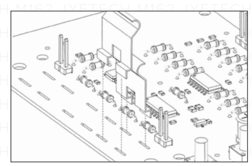
- [ ] J5 12x1 pin header
- [ ] J8, J9 2x1 pin header

PUSH BUTTONS

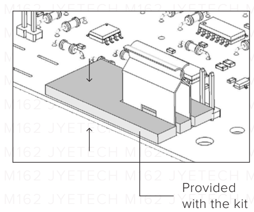


- [ ] SW1, SW2, SW3 6.2x6.2x9.5 mm tact switch

CONTACT ARMS

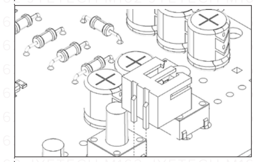


- [ ] J13, J14, J15, J16, J17, J18



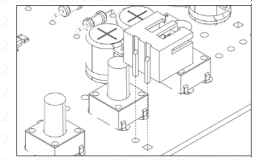
Use the provided tool to hold the arms in place with your fingers or a clip. Solder at the bottom side.

CONNECTOR *(optional)*



- [ ] J11 XH2.54 2-pin header, right-angled

CHARGER BOARD *(optional)*

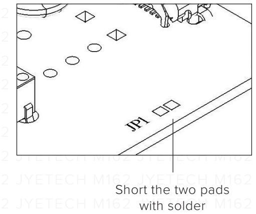


- [ ] BOB1 JYE118 battery charger breakout board (with 5x1 strip pin header)

CLOSE JP1

(Note: skip this step if the battery charger board is installed.)

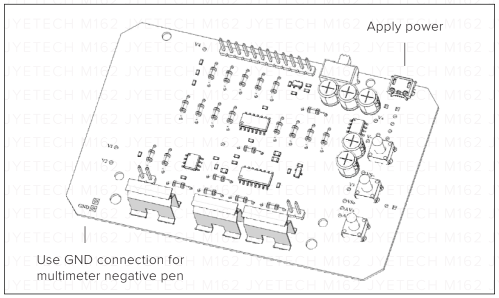
- [ ] JP1



4 Verify Voltages

1 Apply 5V power supply via the micro-USB connector on the analog board.

2 Spot check the voltages on the board at the test points labeled to ensure they measure to the voltages in the chart below.

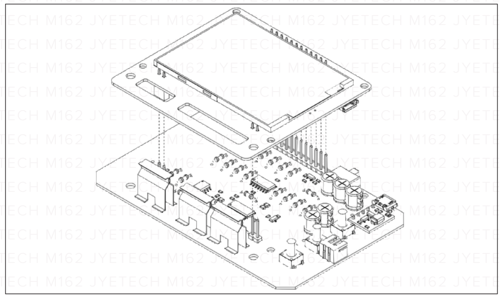


REFERENCE

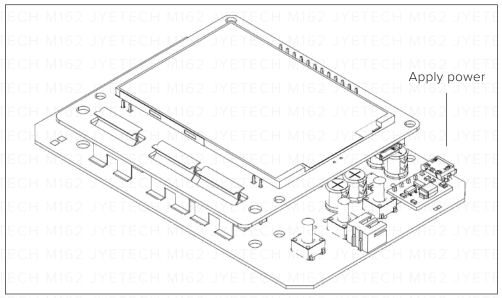
Test Points	Voltage		
	Min	**Typical**	**Max**
V+	3.60V		5.50V
VS+	3.60V		5.50V
AV+	3.10V	3.30V	3.50V
V-			-2.50V
VS-			-2.50V
AV-	-2.20V	-2.00V	1.80V
V1		0.0V	
V2		0.0V	
V3		0.0V	
V4	1.40V	1.65V	1.80V

5 Quick Test

1 Attach the main board to the analog board.



2 Apply power supply via the micro-USB connector on the analog board and slide the power switch to ON position.



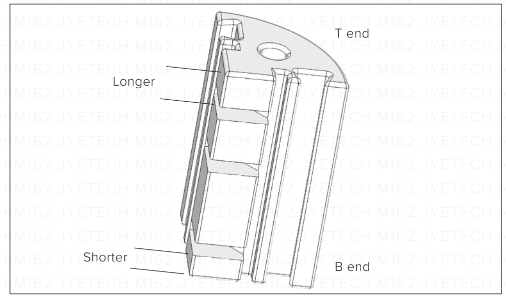
3 Once the device starts up, hold down RCL button to bring up the menu. Select the "Default" option to set all the parameters to their default values

4 Test measurement with the provided resistors (1Ω & 1MΩ), capacitor (0.1μF), and inductor (1mH), or with your own components.

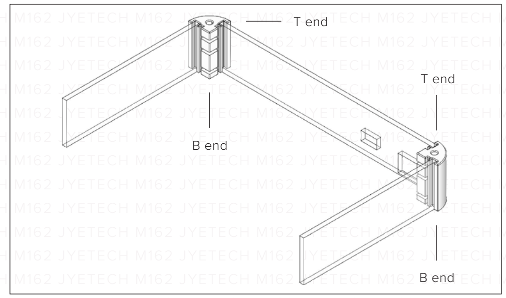
Note: The provided resistors are 1% tolerance. The capacitor and inductor tolerance can be 10% or higher. If the measured values are away from their labeled value they might not reflect a problem of the meter. Further confirmation is required.

6 Enclosure Assembly

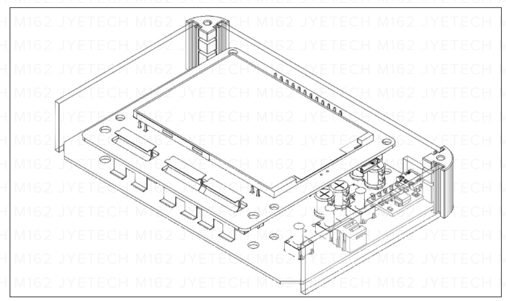
1 Identify the ends of the standoffs.



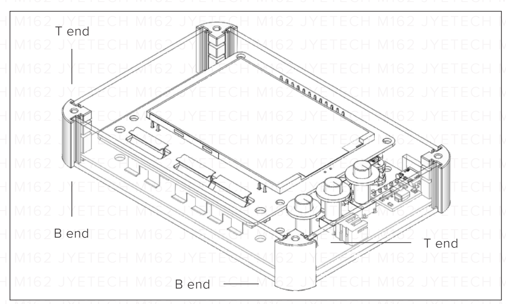
2 Assemble the two side pieces and back piece. Ensure the standoffs are at the correct orientation.



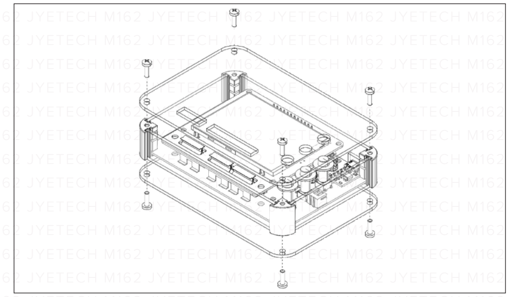
3 Insert the assembled main board-analog board with the analog board fitted into the standoff slots near the bottom ends.



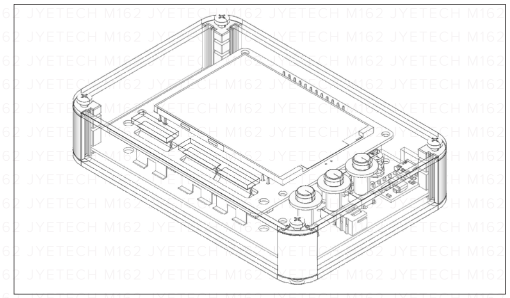
4 Assemble the front piece. Ensure the standoffs are at the corret orientation.



6 Assemble the top and bottom pieces with screws. Remember to attach the 3 caps to the pushbuttons before securing the top piece.



7 This is how your M126 LCR Meter should look once enclosure assembly is complete:



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